

## **316 BUILDING SEWER CONNECTIONS AND CLEANOUTS**

### **316.01 DESCRIPTION**

Where indicated in the Contract or directed, building sewers from abutting properties shall be either replaced, extended, and/or reconnected to the public sewer to restore full permanent service. Work includes building sewer excavation, shoring, and backfill per 207, providing cleanouts, restoration of landscape features, furnishing and installing pipe, fittings and incidental work to restore full sewer service.

Work shall be per this Section and the D.C. Plumbing Code and shall be performed by plumbers licensed in the District. In case of discrepancy between this Section and the D.C. Plumbing Code, this Section governs.

### **316.02 SUBMITTALS**

All PVC pipe and fittings shall be accompanied by a certification from the pipe supplier, per ASTM D 2665 and D 3311, which will be the basis of acceptance of PVC materials.

A similar certification shall accompany other pipe materials when requested.

### **316.03 MATERIALS**

Polyvinyl Chloride (PVC) Pipe - 808.02

Cast-Iron Pipe - 809.03

Vitrified Clay Pipe - Vitrified clay pipe and fittings shall be used only as directed and shall meet requirements of 808.03, Extra Strength

Reinforced PCC Pipe - 808.01(B), Class III

### **316.04 CONSTRUCTION REQUIREMENTS**

**(A) GENERAL.** No taps of existing public sewers shall be made by the Contractor except under the supervision of the Chief Plumbing Inspector, his authorized assistant or the Engineer. Two weeks prior to proposed scheduling of building sewer connection work, the Contractor shall give written notice to the Plumbing Inspector, with a copy to the Engineer, stating time of proposed work. All such connections shall be certified in writing by the Inspector per D.C. Plumbing Code.

Joints must be made under dry conditions. If water is present, necessary steps shall be taken to dewater the

trench.

Damaged pipe and joints will be rejected and shall be removed from the job site by the Contractor.

The Contractor shall exercise care to avoid damage to water service piping which is normally located above and in proximity to building sewer piping. The Contractor shall repair water services that are damaged by their operations at no cost to the District.

**(B) WORK ON PRIVATE PROPERTY.** In general, building sewer connection work is in public space. The Contractor shall locate all building sewer piping and may be required to conduct some minor approval from property owners before disturbing any private property, and shall submit a copy of the approval to the Engineer. The Contractor shall make no claim for any time delay associated with obtaining permission to work on private property.

The District assumes no responsibility for any work or trespass on private property.

**(C) PRECONSTRUCTION PHOTOS.** Two preconstruction photographs shall be taken of each property where building sewer connections will be replaced or extended, or cleanouts constructed. These photographs are in addition to, and shall meet the same requirements of, 108.08. Views shall be taken as directed to show preconstruction, existing conditions at each property within the area associated with this work.

**(D) MAINTAINING SEWER SERVICE.** Existing building sewer service shall, in general, be kept in service for the maximum time practicable. Disconnection and reconnection of building sewer and/or cleanout shall be accomplished within the time limits specified herein.

Existing service in the street sewer shall be maintained at all times. The Contractor shall conduct his operations so as to maintain flow in the existing sewer. This will require proper coordination for construction of new wye for building sewer connection.

The Contractor shall have suitable hose and flow control equipment available to plug, block, bypass and pump sewage around isolated building sewer and street sewer sections until permanent piping is complete and in service.

When necessary to pump sewage while installing wyes in existing sewers or while replacing or extending building sewer connections, material pumped shall be carried by means of approved hose or other closed, watertight conveyors to the downstream sewer or manhole designated by the Engineer.

In no case shall bypass pumping be permitted other than during hours when the Contractor is present at the site. Sewage diverted during these times shall be returned to the sanitary system and not discharged into storm sewers, streams or the traveled way.

No more than three separate service disruptions will be permitted during phases of work for any single building sewer connection, and the duration of each disruption shall not exceed two (2) hours, except in an emergency when the Engineer will grant a time extension. The Contractor shall give written notice to the Engineer, stating time and duration of proposed disruption sufficiently in advance to provide for emergency sewer service. If proposed disruption time conflicts with essential consumer use, it shall be rescheduled to alleviate interference. The Engineer will determine action to be taken for essential consumer use requests.

Overtime, weekend, and holiday work may be required at no additional District cost to promptly complete temporary and/or permanent sewer service.

**(E) HANDLING PVC PIPE.** PVC pipe shall be handled per applicable requirements of 314.04(E).

**(F) REPLACE BUILDING SEWER CONNECTION.** Work consists of replacing malfunctioning building sewer connections as well as those with service traps, and reconnecting to existing or new street sewers. Work includes excavation and shoring, backfill and compaction to grade per 207, removal and disposal of old building sewer pipe encountered, furnishing and installing new PVC pipe and fittings between property line and street sewer, making approved connections, restoration of surfaces, sodding per 610.05, and incidental work to restore sewer service. Work may include abandoning existing piping in place and constructing new piping in new trench.

Wye and cleanout will be paid under separate pay items.

Other piping materials shall be used only in special situations as directed.

Replacement building sewer piping shall be the same diameter as piping replaced unless otherwise shown on the Drawings. However, in no case shall the nominal pipe diameter be less than four inches. Replacement building sewer pipe shall be laid to a minimum two percent (2) grade and approved by the Engineer prior to backfilling.

Routings for building sewer replacement shall comply with Section P-308.4.1 of the D.C. Plumbing Code with respect to clearances from lot lines and separation from water service.

Each replacement building sewer shall have a cleanout installed as near to the property line as practicable as shown in the Contract Documents.

Unless otherwise approved or directed by the Engineer, the buildings sewer shall be connected to a wye-branch installed in the street pipe sewer.

All building sewer replacements shall extend from the street sewer to the property line if there is no building projection (areaways, steps, porches) into public space. If a building projection exists onto public

space, the building sewer replacement shall extend to the face of the projection.

**(G) EXTEND/RECONNECT BUILDING SEWER CONNECTION.** Work consists of extending and connecting existing fully functional building sewer connections (no evidence of malfunction, no service traps, no cracks, breaks, sags in line, etc., as determined by the Engineer) to new street sewers. Work includes excavation and shoring, backfill and compaction to grade per 207; disconnecting building sewer pipe from old sewer, furnishing and installing extension pipe section, or removal of existing pipe to shorter length as applicable, using same type material for pipe as existing pipe, disposal of removed pipe and fittings, making approved connections; restoration of surfaces, sodding per 610.05, and incidental work to restore sewer service.

Building sewer piping shall be the same diameter as existing piping unless otherwise shown on the Drawings. However, in no case shall the nominal pipe diameter be less than four inches. Building sewer pipe shall be laid to a minimum two percent (2) grade and approved by the Engineer prior to backfilling.

Routings for building sewer piping shall comply with Section P-308.4.1 of the D.C. Plumbing Code with respect to clearance from lot lines and separation from water service.

Unless otherwise approved or directed by the Engineer, the building sewer shall be connected to a wye-branch which has been installed in the street pipe sewer.

**(H) ADD OR REPLACE STREET SEWER WYE.** When, in the course of replacing/ extending/reconnecting a building sewer connection to a street sewer, it is found that a wye is not available at the location required in the street sewer for the new connection or existing wye is considered inadequate by the Engineer, the Contractor shall install a new wye.

The wye shall be of same material as the pipe sewer, and shall include the proper wye adapter. Concrete collars are not permitted on PVC pipe.

As an alternate to installation of a new wye and/or a wye of the same material as the pipe sewer, and when approved, a cast-iron wye thimble may be used to connect building sewer connection pipe to vitrified clay pipe sewer. Such connection shall include cutting neat hole to proper size in pipe sewer, attaching thimble over hole with suitable seal, and securing thimble with a Class B PCC collar to rigidly connect thimble to pipe.

Thimbles are prohibited for connection to PVC pipe sewers; only PVC wye shall be used.

When approved, a cast-iron straight thimble may be used to connect building sewer connection pipe to concrete pipe sewer. Such connection shall include cutting neat hole to proper size in pipe sewer, inserting thimble in hole with suitable seal, and securing thimble with a Class B PCC collar to rigidly connect thimble to pipe.

(I) **ADD BUILDING SEWER** When existing building sewer connection is in satisfactory condition (no evidence of malfunction, no service traps, no cracks, breaks, sags in line, root intrusions, etc., as determined by the Engineer) but there is no cleanout, work consists of adding a wye and cleanout near property line as shown in the Contract Documents.

The cleanout-to-building sewer connection pipe wye shall be of the same material as the building sewer connection pipe.

Work includes excavation and shoring, backfill and compaction to grade per 207; furnishing and installing cleanout, fittings and screw plug, making approved connections; restoration of surfaces, sodding per 610.05, and incidental work to restore sewer service.

(J) **LEAKAGE TEST.** All equipment and materials required to perform leakage tests and all expenses in connection with such tests, except for District personnel engaged in the supervision of testing, shall be included as part of building sewer connection work.

Each replacement building sewer shall be plugged at point of connection with the street sewer and at property line, and filled with water and tested with not less than a ten foot head of water. The water shall be kept in the system for at least 15 minutes before the leakage test starts.

Leakage shall not exceed a rate of 0.0316 gallon per hour per ten feet of building sewer connection pipe.

Measurement by the Engineer will be made of the rate of leakage from the pipe by determining amount of water required to maintain the ten foot head of water for a period not exceeding one hour. The Contractor shall provide water for this test by making arrangements with the Engineer.

The pipe and cleanout shall be watertight within the foregoing leakage limit. Repairs to all defects responsible for leakage shall be by the Contractor at no additional cost to the District.

(K) **RESTORATION.** Any items disturbed during construction including walls, fences, shrubs, etc., including decorative driveways, sidewalks and patios (brick, stone or decorative concrete), shall be restored by the Contractor upon completion of work. Standard concrete and asphalt paved area shall be patched with asphalt. Grassed areas shall be resodded per 610.05 as part of work.

### **316.05 MEASURE AND PAYMENT**

The unit of measure for Replace Building Sewer Connection, Extend/Reconnect Building Sewer Connection and Add Building Sewer Cleanout will be the linear foot, with measurement made on actual length of new pipe in place complete excluding cleanout wye. Measurement will be made along vertical length of cleanout pipe to discharge end of cleanout wye.

The unit of measure for Add or Replace Street Sewer Wye or Thimble will be each.

Payment for Replace Building Sewer Connection will be made at the Contract unit price per linear foot, which payment will include excavation, shoring, backfill, compaction, restoration and sodding (excluding temporary asphalt patching, which will be paid separately), replacing or extending sewer connection pipe and jointing, leakage test, and all labor, materials, tools, equipment and incidentals needed to complete work specified.

Payment for Extend/Reconnect Building Sewer Connection will be made at the Contract unit price per linear foot, which payment will include excavation, shoring, backfill, compaction, restoration (excluding temporary asphalt patching, which will be paid separately), extending sewer connection pipe and jointing or shortening existing pipe section and jointing, leakage test, and all labor, materials, tools, equipment and incidentals needed to complete work specified.

Payment for Add or Replace Street Sewer Wye or Thimble will be made at the Contract unit price per each, which payment will include furnishing and installing wye or thimble, maintaining sewer service, and all labor, materials, tools, equipment and incidentals needed to complete work specified.

Payment for Add Building Sewer Cleanout will be made at the Contract unit price per linear foot, which payment will include excavation, shoring, backfill, compaction, restoration and sodding (excluding temporary asphalt patching, which will be paid separately), installation of cleanout including wye and jointing, leakage test, and all labor, materials, tools, equipment and incidentals needed to complete work specified.